

## Evaluation Report

**"200 / 300 Series"**

KSIR200S, KSMNR300S, KSAZ300S, KSSR300S & KSGS300S

**Insulated Metal Wall Panel Assembly**

**Manufacturer:**

**Kingspan Insulated Panels, Inc.**

726 Summerhill Drive

Deland, FL 32724

(386) 626-6789

*for*

**Florida Product Approval**

**# FL 15270.1 R3**

**Florida Building Code 7th Edition (2020)**

**Per Rule 61G20-3**

**Method: 2 - B**

**Category: Structural Components**

**Sub - Category: Structural Wall**

**Product Name:** "200/300 Series"

**Product Description:** Insulated Metal Wall Panel System

**Support Material:** Steel

This item has been electronically signed and sealed by James L. Buckner, P.E., on this date using a Digital Signature. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

### Prepared by:

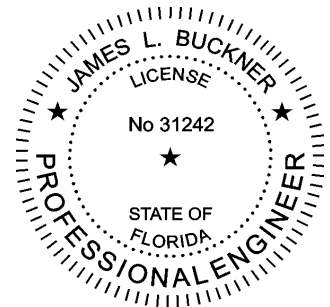
James L. Buckner, P.E., SECB

Florida Professional Engineer # 31242

Florida Evaluation ANE ID: 1916

Report No. 20-286.01\_200-300Series-ER

Date: 12 / 30 / 2020



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Evaluation Report

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## 1.0 Product

- 1.1 **Manufacturer:** Kinspan Insulated Panels, Inc
- 1.2 **Product Name:** "200/300 Series"
- 1.3 **Models ID :**
  - KSIR200 (200 Inverted Rib)
  - KSMNR300S (300 Minor Rib)
  - KSAZ300S (300 A Azteco® Embossed®)
  - KSSR300S (300 R Striated)
  - KSGS300S (300 GS Granitestone®)

## 2.0 Evaluation Scope:

- 2.1 **Compliance with the following**
  - Florida Building Code 7th Edition (2020)
- 2.2 **Evaluation Method:**
  - Florida Product Approval Rule 61G20-3.005 (2) (b)
- 2.3 **Evaluation Classification:**
  - Category: Structural Components
  - Sub Category: Structural Wall
- 2.4 **Properties Evaluated**
  - Structural (Wind Resistance) Properties
- 2.5 **Limits of Evaluation:**
  - This product assembly evaluation is limited to compliance with section 2.1 to section 2.4 of this report.

## 3.0 Evaluated Uses:

Kingspan's 200/300 Series Insulated Metal Panel System is used as an exterior wall cladding system.

## 4.0 Product Assembly Description:

- 4.1 **General:**

The Kingspan's 200/300 Series Insulated Metal Panel Systems are factory assembled sandwiched panels consisting of steel facings and a foam-in-place plastic core. These panels have a tongue and groove interlocking edge. The panels are attached to supports with clips and screws.

## 5.0 General Assembly as Evaluated:

Wall Panel  
Panel Clips System  
Fasteners  
Steel Supports

## 6.0 Evaluated Support Description:

Type: Girts  
Material: Steel  
Flange Thickness: 12 Ga.  
Yield Strength: 50 ksi Minimum

(Design of support system is outside the scope of this evaluation)

## 7.0 Assembly Structural Performance:

### 7.1 Wind Resistance for Single Span Conditions:

| Allowable Negative Design Pressures (psf) |                       |      |       |       |
|-------------------------------------------|-----------------------|------|-------|-------|
| Panel Thickness                           | Single Span Condition |      |       |       |
|                                           | 6 ft                  | 8 ft | 10 ft | 12 ft |
| 2 in                                      | 41                    | 34   | 28    | 21    |
| 2.5 in                                    | 41                    | 34   | 28    | 21    |
| 3 in                                      | 42                    | 36   | 29    | 23    |
| 4 in                                      | 43                    | 37   | 30    | 24    |
| 5 in                                      | 44                    | 38   | 31    | 25    |
| 6 in                                      | 45                    | 39   | 33    | 27    |

### 7.2 Wind Resistance for Double Span Conditions:

| Allowable Negative Design Pressures (psf) |                       |      |             |
|-------------------------------------------|-----------------------|------|-------------|
| Panel Thickness                           | Double Span Condition |      |             |
|                                           | 6 ft                  | 8 ft | 9 ft - 6 in |
| 2 in                                      | 44                    | 37   | 31          |
| 2.5 in                                    | 44                    | 37   | 31          |
| 3 in                                      | 45                    | 38   | 32          |
| 4 in                                      | 46                    | 39   | 33          |
| 5 in                                      | 47                    | 40   | 34          |
| 6 in                                      | 48                    | 41   | 35          |

#### Notes:

- 1- Allowable design pressure(s) for allowable stress design with 1.5 to 1 margin of safety applied to the test loads.
- 2- Negative design pressures (Inward) may be used as a limit for positive pressures (Outward).
- 3- Deflection limits are within L/120 in accordance with FBC 7th Edition (2020),

## 8.0 Performance Standard:

8.1 The following test protocols was performed to demonstrate compliance with the intent of the code:

- **ASTM E330-02** – *Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference*

## 9.0 Code Compliance:

- 9.1 The product assembly described herein has demonstrated compliance with the Florida Building Code 7th Edition (2020), Section 1708.2.

## 10.0 Limitations and Conditions of Use:

### 10.1 Scope of "Limitations and Conditions of Use" for this evaluation:

This evaluation report for "State Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under "State Approval".

### 10.2 Option for application outside "Limitations and Conditions of Use"

Rule 61G20-3.005(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.

10.3 Diaphragm and axial load capacity is outside the scope of this evaluation.

10.4 Design of support system is outside the scope of this report. Support shall be structural framing members complying with the FBC Chapter 22 for steel and Chapter 16 for structural loading and shall be designed by others.

10.5 Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation.

10.6 This report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)

## 11.0 Quality Assurance:

The manufacturer has demonstrated compliance of products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **FM Approvals** – QA (FBC Organization ID# QUA 1860).

## 12.0 Components

### 12.1 Panel:

#### "200/300 Series"

- Overall Panel Dimensions
  - Thicknesses: 2 in, 2.5 in, 3 in, 4 in, 5 in & 6 in
  - Width: 42" Net Coverage
  - Length: 10 ft – 48 ft.
- Panel Interior Face
  - Material: Steel
  - Thicknesses: 26 Ga., 24 Ga., & 22 Ga.
  - Yield Strength: 33 ksi. Minimum
  - Corrosion Resistance: Aluminum Zinc Coated Steel per ASTM A792 AZ 50, or Galvanized Steel per ASTM A653 G-90
- Panel Core
  - Material: Urethane Foam Plastic
  - Density: 2.3 – 2.6 pcf
- Panel Exterior Face
  - Material: Steel
  - Thicknesses: 26 Ga., 24 Ga., & 22 Ga.
  - Yield Strength: 33 ksi. Minimum
  - Corrosion Resistance: Aluminum Zinc Coated Steel per ASTM A792 AZ 50, or Galvanized Steel per ASTM A653 G-90

### 12.2 Hidden Fastener Clip:

- Part #: PC-2
- Material: Steel
- Thickness: 16 Ga.
- Corrosion Resistance: Aluminum Zinc Coated Steel per ASTM A792 AZ 50, or Galvanized Steel per ASTM A653 G-90

### 12.3 Fasteners:

- Type: Self-Drilling Screw
- Size: 1/4" – 14 × Various Lengths<sup>1</sup>
- Penetration: 3/4" min. thru flange of steel supports
- # of Fasteners per Clip: 2
- Standard: Per SAE J78-1979

#### Note:

- 1- Fastener Length Varies according to panel thickness.

## 13.0 Installation Method:

The Kingspan's 200/300 Series Insulated Metal Panel System shall be installed in compliance with the installation method listed in this report and applicable code sections of FBC 7th Edition (2020). The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

(Refer to installation method on Pages 7 through 9 of this evaluation report.)

## 14.0 Evaluation Reference Data:

- 14.1 ASTM E330-02 Structural Performance Test  
By Farabaugh Testing & Engineering Inc. (FBC Organization ID# TST 1654)  
Report #: T356-11 Dated: 1/9/12
- 14.2 Quality Assurance  
FM Approval – QA (FBC Organization #: QUA 1860)
- 14.3 Certification of Independence  
By James L. Buckner, P.E. @ CBUCK Engineering  
(FBC Organization # ANE 1916)

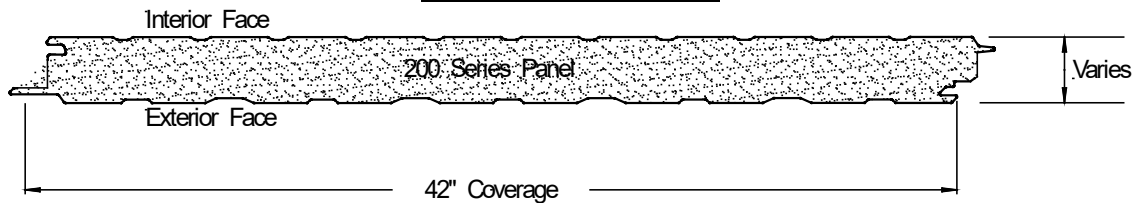
## 15.0 Additional Standards Tests:

Performed with Kinspan's 300 Series Insulated Metal Panel but not evaluated in this report.

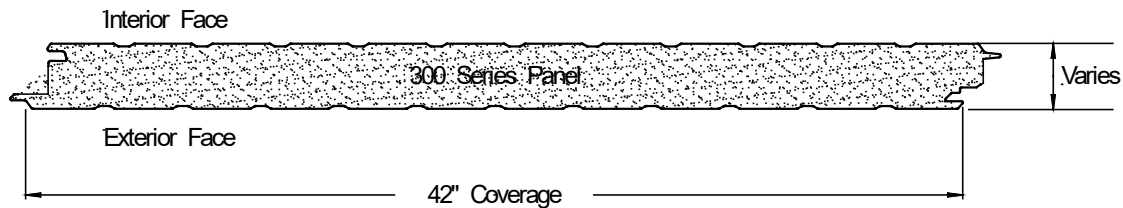
- 15.1 ASTM E 72 Test  
By Farabaugh Testing & Engineering Inc. (FBC Organization ID# TST 1654)  
Report #: T392A-10 Dated: 5/22/11
- 15.2 ANSI/UL 263 Fire Tests  
By Underwriters Laboratories, Inc.  
File No. BXUV.U053 (FBC Organization ID# TST 1739)

## Installation Method Kingspan Insulated Panels, Inc. "200/300 Series" Insulated Wall Panel System Attached to Steel Girts

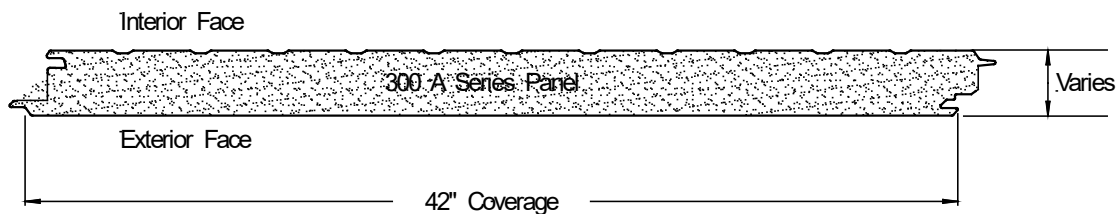
### Panel Profile Views



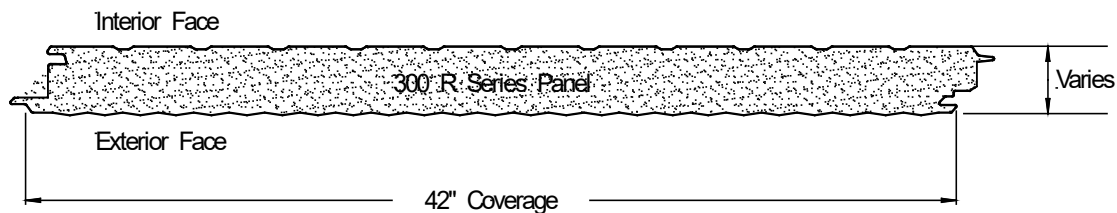
**"200 Series" Panel**



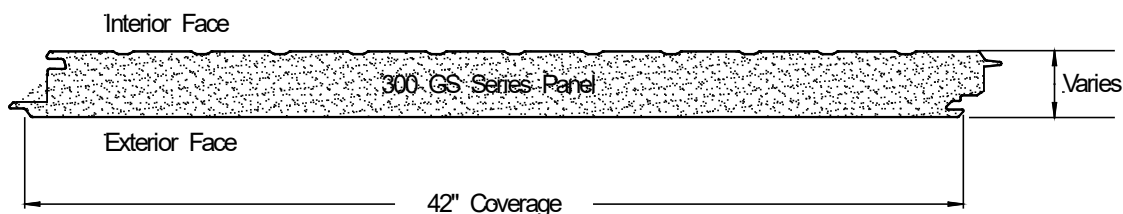
**"300 Series" Panel**



**Typical "300 A Series" Panel**

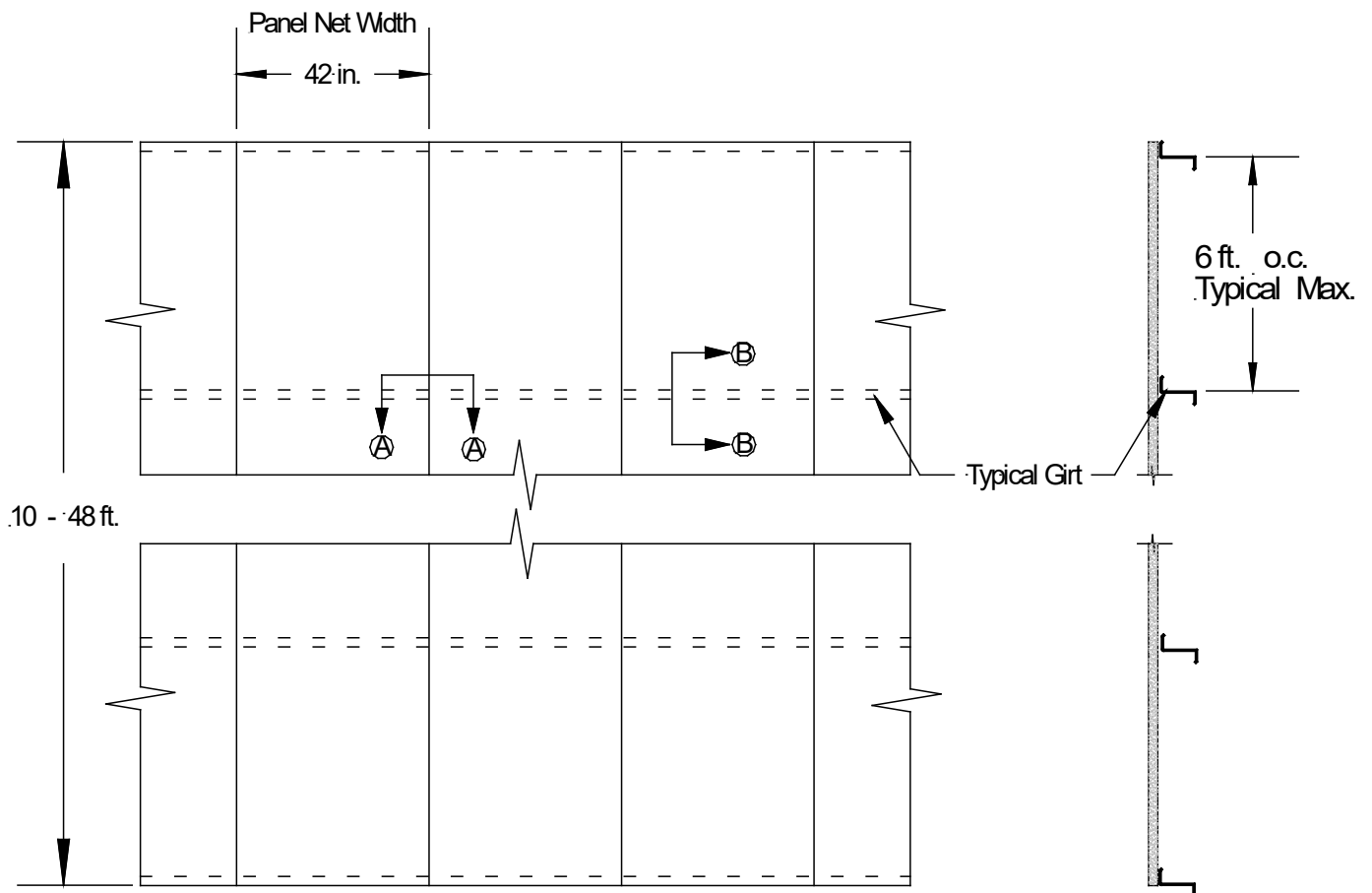
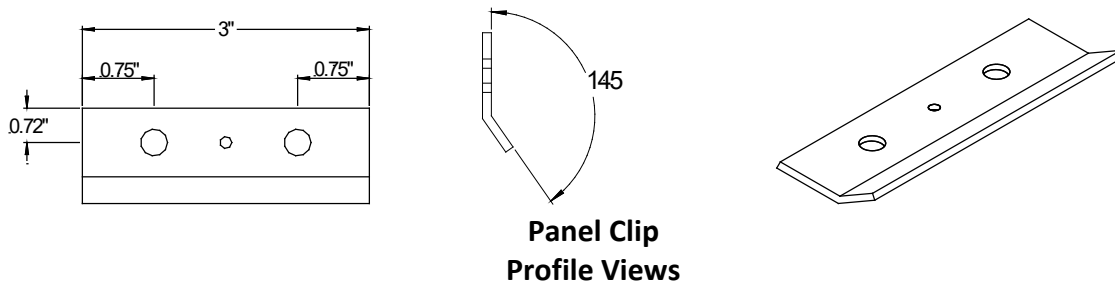


**Typical "300 R Series" Panel**



**Typical "300 GS Series" Panel**

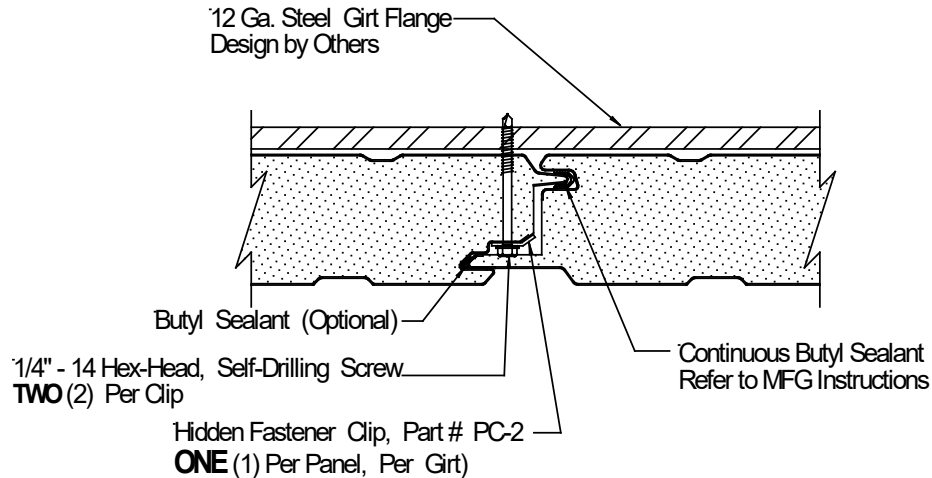
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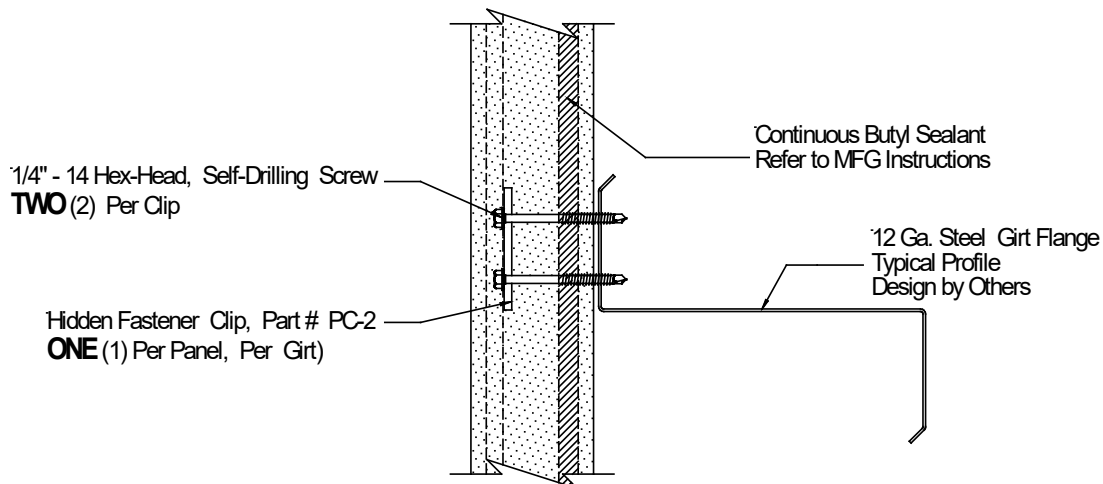
## Installation Method

### Kingspan Insulated Panels, Inc.

### "200/300 Series" Insulated Wall Panel System Attached to Steel Girts



**Typical Panel Vertical Joint  
Section View (Detail A)**



**Typical Panel Horizontal Joint  
Section View (Detail B)**